Before the
FEDERAL COMMUNICATIONS COMMISSION MAR 11 FCC 94-30
Washington, D.C. 20554

In the Matter of	)	GEN Docket No. ~~90-314~~
	)	ET Docket No. 92-100
Amendment of the Commission's	)	RM-7617, RM-7760, RM-7782,
Rules to Establish New	)	RM-7860, RM-7977, RM-7978,
Narrowband Personal	)	RM-7979, RM-7980, PP-4, PP-36,
Communications Services	)	PP-37, PP-79, and PP-80

MEMORANDUM OPINION AND ORDER

Adopted: February 3, 1994; Released: March 4, 1994

By the Commission: Commissioner Barrett issuing a statement.

TABLE OF CONTENTS

INTRODUCTION

1. By this action, the Commission reconsiders and clarifies the narrowband personal communication service (PCS) rules and pioneer's preference decisions adopted in the First Report and Order (Report and Order) in this proceeding.[1] Specifically, to promote better, more efficient and competitive service to the public, we are amending our rules to 1) provide a class of large regional service areas; 2) specify construction requirements based on geographic area or population served; and, 3) limit the number of response channels that an existing paging licensee may obtain.

2. We also are instructing the licensing bureau to condition any license awarded to Mobile Telecommunication Technologies, Inc. (Mtel) as a result of its pioneer's preference grant. Mtel will be required to use the design and technologies upon which its preference award is based. Mtel also will be required to hold its license for at least three years, or until the five-year construction benchmark is met, whichever occurs first. Finally, we are affirming denials of four pioneer's preference requests.

3. This completes our regulatory plan to authorize and facilitate provision of narrowband PCS to the American public. The rules and amendments we adopt herein will foster introduction of narrowband PCS services to the public, contribute to the development of the national information infrastructure, and provide Americans with ubiquitous wireless access to new data and voice services. In particular, establishing a category of larger regional service areas will lead to more rapid deployment of these services. This action will result in the creation of new jobs, increase productivity, and provide the basis for more effective U.S. competition in the global telecommunications market.

BACKGROUND

4. In the Report and Order, we allocated spectrum at 900 MHz for the narrowband PCS service and adopted rules to govern its operation.[2] Mtel was awarded a pioneer's preference for the development of an innovative new technology that will increase

---

[1] Narrowband Personal Communications Services, First Report and Order, 8 FCC Rcd 7162 (1993).

[2] A total of three megahertz (the 901-902, 930-931 and 940-941 MHz bands) was allocated to the service, but only two of the three megahertz were channelized and made available for licensing.

spectrum efficiency. Eighteen additional requests for pioneer's preference related to narrowband PCS were denied.

5. In response to the Report and Order, Mtel, PageMart, Inc. (PageMart), and Paging Network, Inc. (PageNet) filed petitions for clarification or reconsideration of six aspects of the rules: (1) size of service areas; (2) channel plan; (3) limits on holding multiple licenses; (4) eligibility for paging response channels; (5) construction requirements; and, (6) service definition.[3]

6. In addition, a number of issues related to pioneer's preferences are raised. Pacific Bell, PageMart and PageNet request clarification or reconsideration of aspects of the pioneer's preference grant to Mtel. While none of the petitioners challenge the technical merit of the award, all three request that Mtel be required to pay for its license. PageMart and PageNet also request that Mtel be required to build the system it proposed and that Mtel not be granted a license before other applicants. Additionally, PageMart requests that Mtel be granted a license for less than a nationwide service area. Finally, Advanced Cordless Technologies, Inc. (ACT), Echo Group L.P. (Echo), Freeman Engineering Associates, Inc. (Freeman), and Global Enhanced Messaging Venture (Global) request reconsideration of the denial of their pioneer's preference requests.[4]

DISCUSSION

Size of Licensed Service Areas

7. In the Report and Order, we adopted licensed service areas and an associated spectrum/channel plan to accommodate the operation of competitive narrowband PCS services at the nationwide, regional and local levels. We adopted 51 regional service areas and 492 local service areas, based on Rand McNally's Major Trading Areas (MTAs) and Basic Trading Areas

---

[3] See Mtel, Petition for Clarification or Partial Reconsideration (September 10, 1993); PageMart, Petition for Reconsideration (September 10, 1993); and PageNet, Petition for Reconsideration and Clarification (September 10, 1993).

[4] See Petitions for Reconsideration filed by ACT on November 22, 1993; Echo on September 10, 1993; Freeman on August 23, 1993; and Global on August 24, 1993.

(BTAs), respectively.[5] We designated 11 channels for nationwide use, 13 channels for regional or MTA operations, and 2 channels for local or BTA use. We also set aside 8 unpaired acknowledgement or response channels for use by existing paging licensees and indicated that they would be licensed at the local BTA level. Further, we permitted regional and local service areas to be aggregated up to and including nationwide coverage.

8. In its petition, PageNet requests that we reconsider our decisions with regard to local and regional service areas. PageNet states that BTA service areas are technically unworkable; are not representative of existing local paging systems; and, do not cover sufficient population centers to be economically viable. It also argues that MTA service areas pose technical difficulties for regional advanced messaging services and are not representative of existing regional systems. PageNet also states that the Commission's decisions to allow aggregation of service areas and to assign licenses through auctions do not diminish the disadvantages of MTAs. PageNet states that the "vast majority" of existing paging systems are regional and wide area in nature, covering multiple cities and states. Accordingly, PageNet asks that we adopt local service areas that are at least the size of MTAs; and, that we adopt regional service areas based upon three to five, but no more than ten, large regions. PageNet further requests that we adopt service areas at least as large as MTAs for the paging response channels.

---

[5] See Rand McNally, 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39 ("BTA/MTA Map"). Rand McNally organizes the 50 States and the District of Columbia into 47 MTAs and 487 BTAs. The BTA/MTA Map is available for public inspection at the Office of Engineering and Technology's Technical Information Center, Room 7317, 2025 M Street, N.W., Washington, D.C. For PCS licensing purposes, we adopted service areas that separated Alaska from the Seattle MTA and added five insular areas: Puerto Rico, U.S. Virgin Islands, Guam, Northern Mariana Islands, and American Samoa. In our rules, the insular areas are treated as five BTA service areas and three MTA service areas. See Section 99.102 of the attached revised rules. Additionally, the listing of counties, parishes and census divisions that comprise each BTA and MTA is also available for inspection at the Technical Information Center and was filed in GEN Docket No. 90-314 on February 15, 1994 by the Personal Communications Industry Association. (Note that this is a listing of Rand McNally's 47 MTAs and 487 BTAs. Thus the census divisions of Alaska are listed under the Seattle MTA, instead of separately in an Alaska MTA-like service area; and that the insular areas are not listed.)

9. PageNet argues that BTAs are technically unworkable. It states that paging systems typically use high power base stations with service areas of 20 miles or more. PageNet indicates that many BTAs are less than 50 miles across, and therefore signals from a single base station located at the center would interfere with systems in neighboring BTAs. To avoid such interference, it states that licensees would be required to construct numerous low power base stations, thereby substantially increasing the costs of providing service. It argues that these higher costs will limit participation by small businesses. Similarly, PageNet states that use of MTAs for regional services is technically difficult because MTA borders, particularly those in the eastern third of the country, are often close to population centers and therefore difficult from a technical standpoint to cover with sufficient signal strength without interfering with the adjacent area's service provider.[6]

10. PageNet also argues that BTAs are not representative of existing local paging systems and that MTAs are not representative of regional paging systems.[7] It states that 900 MHz common carrier paging licensees overcome the existing small licensing areas by filing scores of applications simultaneously. Thus, PageNet argues that local service areas do not equate to BTAs but rather are, in practice, several times larger. PageNet further argues that BTAs are not economically viable because they do not sufficiently cover population centers. PageNet states that 297 of the 487 BTAs range from 26,000 to a quarter million people and thus are too small for an economically viable advanced paging system. PageNet asserts that, only the 52 BTAs with one million or more people, are "truly viable" from a financial standpoint. Similarly, it argues that MTAs are not representative of regional paging systems, and that using MTAs as the regional service area will deprive licensees of the economies of scale associated with larger regions.

11. Three parties filed comments in support of PageNet's reconsideration request. The Association for Private Carrier Paging Section of the National Association of Business and Educational Radio, Inc. (APCP) expresses general support for

---

[6] PageNet uses Springfield, Massachusetts, to illustrate the problem. Springfield is 3 miles from an MTA border. PageNet contends that a licensee serving Springfield would be limited to 5 watts and an antenna height of 50 feet. It also lists 43 cities that are near an MTA border, 42 of which are 10 miles or less from the border.

[7] For example, PageNet states that its local wide area Miami system covers portions of 4 BTAs, that its Los Angeles system covers portions of 5 BTAs, and that its San Francisco system covers portions of 6 BTAs.

larger regional and local service areas, but does not recommend specific service area sizes. PacTel Paging and PageMart concur with PageNet's assessment that MTAs are too small to support large regional paging systems. PacTel Paging states that the five region plan it proposed in its original comments would better approximate the scope of current regional paging systems.[8]

12. Both PageMart and PacTel Paging also support licensing larger local service areas and oppose the use of BTAs. PageMart agrees that local licenses based on BTAs would not provide a population base large enough to justify constructing and operating an advanced paging system. PageMart states that license areas based on BTAs necessarily will result in either the inefficient, uneconomic use of numerous low power base stations or an inability to provide service to large portions of the licensed service areas. PageMart also requests that at least half of the paging response channels be designated for use at the MTA level, or preferably, at an even larger regional level. PacTel Paging argues that BTA areas are too small to present any competition to existing paging services or to the MTA licensees. It also states that BTAs do not represent a real opportunity for small, minority, or women-owned businesses because local licenses based on BTAs have economic value only if aggregated with adjoining areas. Additionally, PacTel Paging submits that if MTAs are considered to be too large for local licensing, an alternative is the 183 "economic areas" as defined by the Department of Commerce's Bureau of Economic Analysis (BEA). PacTel Paging states that BEA areas would be preferable to BTAs because BEAs encompass commuter areas surrounding each economic area.

13. In the Report and Order, we stated that there appears to be interest in providing narrowband PCS services across a range of local, regional and national licensed service area sizes. We found that large regional and nationwide service areas will provide economies of scale and further our goal of fostering the rapid implementation and deployment of narrowband PCS systems and services. Accordingly, we designated most narrowband PCS channels for MTA and nationwide use. Eleven channels were designated for nationwide use, 13 channels for regional/MTA use and 2 channels for local/BTA use. In adopting MTAs as the basis for regional service areas, we stated our belief that these areas represented a good compromise between the very large areas suggested by some parties and the smaller areas suggested by other parties. We noted that if applicants require service areas larger than those based on MTAs, nationwide licenses are

---

[8] For example, PacTel Paging indicates that it now provides wide-area paging service that extends along virtually the entire West Coast and that a PCS licensee would have to aggregate dozens of MTAs to provide a comparable narrowband PCS service.

available and aggregation of regional service areas is permitted.

14. We continue to believe that service areas based on MTAs contain sufficient population and geographic area to support economically viable narrowband PCS services.[9] Further, we anticipate that the rules we will adopt to govern the competitive bidding process will provide for and facilitate the aggregation of service areas. However, the parties have convinced us of the advantages of providing for an additional category of service area that is smaller than nationwide, but larger than individual MTAs. Therefore, we conclude that the creation of five large regions is in the public interest. These regions better reflect the technologies and business plans of the parties proposing to implement large regional narrowband PCS systems. We have reviewed the large regional service area proposals advocated by PageNet, PacTel Paging and Telocator earlier in this proceeding,[10] and have developed five large regional service areas that utilize MTA boundaries and have roughly equal population. Following MTA boundaries for the regions prevents overlap between these new large regional service areas and those based on MTAs and BTAs. This approach will allow greater economies of scale and facilitate the coordination and licensing of narrowband PCS services. We therefore are designating the following five regions for licensing of narrowband PCS:

> Region 1 (Northeast): The Northeast Region consists of the following MTAs: Boston-Providence, Buffalo-Rochester, New York, Philadelphia, and Pittsburgh.
>
> Region 2 (South): The South Region consists of the following MTAs: Atlanta, Charlotte-Greensboro-Greenville-Raleigh, Jacksonville, Knoxville, Louisville-Lexington-Evansville, Nashville, Miami-Fort Lauderdale, Richmond-Norfolk, Tampa-St. Petersburg-Orlando, and Washington-Baltimore; and, Puerto Rico and United States Virgin Islands.
>
> Region 3 (Midwest): The Midwest Region consists of the following MTAs: Chicago, Cincinnati-Dayton, Cleveland, Columbus, Des Moines-Quad Cities, Detroit,

---

[9] We note that the populations of 48 of the MTAs range from just over one million to more than 26 million. The three MTAs below one million (Alaska (550,000), Guam and Northern Mariana Islands (176,000), and American Samoa (47,000)) are geographically separate from other population centers.

[10] See Comments to Notice of Proposed Rule Making and Tentative Decision (Notice) filed by PageNet at 9, note 7; PacTel Paging at Attachment 1; and Telocator at Attachment 1.

Indianapolis, Milwaukee, Minneapolis-St. Paul, and Omaha.

Region 4 (Central): The Central Region consists of the following MTAs: Birmingham, Dallas-Fort Worth, Denver, El Paso-Albuquerque, Houston, Kansas City, Little Rock, Memphis-Jackson, New Orleans-Baton Rouge, Oklahoma City, San Antonio, St. Louis, Tulsa, and Wichita.

Region 5 (West): The West Region consists of the following MTAs: Honolulu, Los Angeles-San Diego, Phoenix, Portland, Salt Lake City, San Francisco-Oakland-San Jose, Seattle (including Alaska), and Spokane-Billings; and, American Samoa, Guam, and the Northern Mariana Islands.

15. We are also amending our narrowband PCS spectrum and channelization plan to include channels for the five large regions and MTAs, as follows:

Service Area	Channels Available
Nationwide	3- 50 kHz paired with 12.5 kHz 5- 50 kHz paired with 50 kHz 3- 50 kHz unpaired
Regions	4- 50 kHz paired with 12.5 kHz 2- 50 kHz paired with 50 kHz
MTA	3- 50 kHz paired with 12.5 kHz 2- 50 kHz paired with 50 kHz 2- 50 kHz unpaired
BTA	2- 50 kHz paired with 12.5 kHz

16. With regard to PageNet's and PageMart's requests for larger response channel service areas, we concur that some of the response channels should be set aside for licensing at the MTA level. We agree that designating some response channels at the MTA level will make it easier for operators of wider area local and regional systems to upgrade and coordinate their paging operations. We conclude that PageMart's request that half of the paging response channels be allocated on a MTA basis and half on a BTA basis balances the needs of those parties desiring to serve larger areas and those parties desiring to serve local areas.

Accordingly, we are designating four of the eight response channels for licensing at the MTA level. The remaining four channels will continue to be available for licensing at the BTA level.

17. Use of 50 kHz-Based Channels. In the Report and Order, we adopted a 50 kHz-based channel plan (i.e., channels were designated as follows: 50 kHz paired with 50 kHz, 50 kHz paired with 12.5 kHz, and 50 kHz unpaired channels). We found that most proposed narrowband services can be accommodated within such a 50 kHz channel plan. To accommodate applications that might need wider bandwidths, we permitted aggregation of up to three channels (e.g., 150 kHz paired with 150 kHz).[11]

18. In its petition, PageMart requests reconsideration of the narrowband PCS channel plan, urging that we provide for an even greater variety in the size of channels. PageMart states that the channel plan adopted will limit the efficient use of this spectrum and encourage warehousing and speculation. It further argues that basing the channel plan on 50 kHz channels may inhibit the development of other services that require either smaller or larger configurations.[12] PageMart does not, however, propose a specific alternative to the channel plan we adopted. No party commented on this aspect of PageMart's petition.

19. In the Report and Order, after fully considering the proposals of PageMart and others on this issue, we concluded that the services proposed for these and other pairings would be accommodated best by adoption of a 50 kHz-based channel plan, with a provision to allow aggregation of channels. While PageMart expresses a general dissatisfaction with the channel plan, it fails to offer a specific alternative. Further, it fails to provide specific reasons or arguments why larger or smaller channels are needed or desirable. Nor does it explain how such channels would discourage warehousing or encourage more efficient use of the spectrum. PageMart does not provide a single concrete example of substantial incompatibility between our plan and systems proposed in the record. PageMart presents no new information or analysis that indicates a need for a wider

---

[11] As indicated above, we also provided eight 12.5 kHz paging response channels for existing paging licensees.

[12] PageMart references its own Reply Comments to the Notice at 3-7, where it stated that the channel plan should have a range of variously sized channels from 25 kHz to 250 kHz. PageMart also cites PageNet's Comments to the Notice at 12, where PageNet stated that license grants should be for bandwidths ranging from 25 kHz to 250 kHz; and PacTel Paging's Comments to the Notice at 24, where PacTel Paging supported a channel plan offering channel sizes ranging from 25 to 100 kHz in multiples of 25 kHz.

range of channel sizes, either larger or smaller. Accordingly, we are maintaining a 50 kHz-based channel plan for narrowband PCS.

Limit on Holding Multiple Licenses

20. As noted above, our rules permit a single entity to hold licenses for up to three 50 kHz channels, paired or unpaired (i.e., no more than 150 kHz paired with 150 kHz) in any geographic area. We stated that this approach would allow narrowband PCS providers flexibility to combine channels to accommodate specific service needs and would ensure that narrowband PCS is offered on a competitive basis.

21. PageMart, in its petition, requests reconsideration of this limit on holding multiple licenses. PageMart states that the restriction, coupled with the channel plan, may restrict the ability of operators to utilize spectrum in a "fully efficient manner." In addition, PageMart states that the Report and Order leaves unclear the total amount of spectrum for which a licensee is eligible. PageMart states that there are instances in which licensees may hold up to a total of 300 kHz, but that the limit of three licenses appears to restrict the total amount of capacity that can be held by some licensees to well below 300 kHz. PageMart argues that this "ambiguity" will result in warehousing and speculation because all applicants would apply for three paired 50 kHz channels, whether needed or not. Therefore, PageMart recommends that the Commission reduce the maximum amount of high-powered forward channels for which a licensee is eligible from 300 kHz to 150 kHz.

22. PageMart further states that the broad language in footnote 21 of the Report and Order referring to a limit based on the total spectrum in the licensee's nationwide, regional, and local licensed service area at any geographic point could be interpreted to mean that the cumulative amount of spectrum held by a licensee for all of its paging services (both existing and in the new narrowband PCS spectrum) is to be considered in determining compliance with this limit. PageMart requests that we clarify this language to indicate that only narrowband PCS spectrum is included.

23. Finally, PageMart requests that the rules be amended with regard to two additional issues: 1) that eligibility for the paging response channels be limited to existing paging licensees, and 2) that the paging response channels be paired with and used to upgrade existing paging operations. Additionally, PageMart requests that each paging licensee be limited to two paging response channels in each service area because in the absence of a limit an existing paging operator could purchase more of these channels than legitimately needed to upgrade its system with the intent to prevent its competitors

from obtaining channels to implement similar upgrades. No party addressed these requests.

24. Our intent is to limit entities to a total of three licenses for narrowband PCS spectrum, excluding the 12.5 kHz response channels reserved for the upgrade of existing systems. The multiple ownership limit does not include existing paging spectrum. While the practical result of this limit is that the maximum amount of spectrum will range from 150 to 300 kHz, we disagree with PageMart that this result is inherently inefficient or that it will lead to warehousing. Given the statutory terms governing licensee selection by competitive bidding contained in the 1993 Omnibus Budget Reconciliation Act, we expect that this spectrum likely will be licensed through the competitive bidding process and that the cost for channels in any particular market will vary with the amount of spectrum. This spectrum-based cost, coupled with our construction requirements, provides a significant disincentive to warehouse spectrum. Further, given that different proposed systems require different amounts of spectrum to provide desired levels of service, providing a variety of channel bandwidths derived indirectly from the spectrum requirements of systems proposed on the record should provide an efficient means of meeting the spectrum requirements of the most applicants. Finally, we note that contrary to PageMart's understanding, our plan permits a single licensee to hold no more than 150 kHz in the high-power forward channels. Accordingly, we are maintaining the rules on holding multiple narrowband PCS licenses as adopted.

25. On our own motion, we are clarifying application of the narrowband PCS multiple ownership limits by adopting an attribution rule. For this purpose we adopt the five percent attribution limit adopted previously in the broadband PCS service proceeding.[13] Accordingly, narrowband PCS licensees are defined as entities having an ownership interest of five or more percent in a narrowband PCS license. Licensees may not have an attributable ownership interest in entities holding more than three narrowband PCS licenses in any geographic area. Entities that otherwise are qualified may own less than five percent of narrowband PCS licensees without restriction. As with broadband PCS, applied to narrowband PCS, this provision ensures that no individual person or single entity is able to exert undue market power through partial ownership in multiple narrowband PCS licensees in a single service area.

---

[13] See Broadband Personal Communications Services, Second Report and Order, 8 FCC Rcd 7700 at 7728, para. 61 and note 62 (1993).

26. We agree with PageMart that the conditions for the use of the paging response channels require clarification. Therefore, we are now specifying that an "existing" paging licensee means a paging licensee authorized under Part 22 or Part 90 as of the adoption date of the Report and Order, June 24, 1993. In addition, the existing paging licensee must operate at least one base station in the MTA or BTA for which it requests a paging response channel. The paging response channels are limited to mobile-to-base transmissions and may be used only in a paired manner with existing paging channels to provide mobile-to-base station communications. Finally, we are persuaded that existing paging licensees should be limited to two paging response channels in any given geographic area, as suggested by PageMart. This will allow an opportunity for existing paging licensees to upgrade their operations to provide acknowledgement and messaging capability.

Construction Requirements

27. In the Report and Order, we adopted certain minimum requirements for operation and service to ensure that the spectrum is being effectively utilized. Specifically, we required narrowband PCS licensees to meet the following construction requirements. Licensees of nationwide service area channels must construct at least 250 base stations within five years and 500 base within ten years. MTA licensees must provide coverage to approximately 25 percent of the geographic area of their MTA within five years and 50 percent within ten years; or, alternatively, construct at least 25 base stations and 50 base stations within five and ten years, respectively. Licensees of BTA service area channels must construct at least one base station and begin providing service in their licensed service area within one year of being licensed. In evaluating compliance with the these requirements, we stated that we will consider that each base station serves a geographic area of about 3000 square kilometers (km^2). In cases where low-power base stations that serve smaller areas are constructed, we stated that the licensee must aggregate the coverage areas of those lower power facilities to determine the number of equivalent (3000 km^2 coverage area) base stations for the purpose of complying with the construction requirements.

28. Mtel, PageMart, and PageNet request clarification or reconsideration of certain aspects of the construction requirements. In its petition, MTel states that while the requirements attempt to ensure that the service benchmarks cannot be evaded by simply erecting the requisite number of inexpensive, low-power transmitters, the purposes of the rule would be better served by construction benchmarks that emphasize service to the public. Mtel states that relying solely on a geographic coverage requirement could lead to coverage in sparsely populated areas where service is not needed and economically unjustified. Mtel,

therefore, suggests retaining the base station construction requirement but reorienting the emphasis of the rule to create benchmarks based on geographic area or population. Mtel recommends adopting coverage benchmarks of serving 37.5 percent of the population within five years and 75 percent within ten years for nationwide and regional licensees, and of serving 37.5 percent of the population within one year for BTA licensees.[14]

29. PageMart and PageNet, in their petitions, request clarification of the construction requirements particularly with regard to the treatment of low power base stations. PageMart requests that the Commission adopt a specific method for calculating the service area of low-power base stations and suggests the service radius contour formula used to calculate base station coverage in the cellular service.[15] PageNet states that Commission needs to clarify what is meant by low power base stations so that a licensee can determine when it has satisfied its construction obligations.

30. American Paging, Inc. (American Paging) and PageMart support Mtel's proposal for alternative population-based coverage requirements. PageMart agrees with Mtel that utilizing only geographic criteria could lead to coverage in sparsely populated areas where service is not needed. However, PageMart cautions that the absolute minimum population benchmark for service by nationwide licensees should be no lower than 75 percent within ten years, and suggests that an even higher figure might be appropriate. American Paging agrees that Mtel's proposed benchmarks are realistic and substantial.

31. As stated in the Report and Order, we believe that narrowband PCS will be a highly competitive service and that licensees will have strong economic and competitive incentives to construct facilities to meet service demands. Nevertheless, we

---

[14] Mtel suggests that the rules be modified to include requirements on the number of base stations and the geographic area or population covered by such base stations. For example, Mtel suggests that the construction requirements for nationwide licensees be amended as follows:

> Licensees of nationwide service area channels must construct at least 250 base stations *providing a composite service area covering at least 750,000 square kilometers or 37.5 percent of the U.S. population* within five years (*Emphasis added*) ...

Mtel proposed similar language for each of the construction benchmark rules.

[15] See 47 C.F.R. § 22.903(a)(1).

continue to believe that construction benchmarks are desirable. In this regard, we concur with Mtel's suggestion that the purposes of the rule would also be served by construction benchmarks that emphasize service to the public. We agree that the addition of alternative population-based coverage requirements would further the purposes of these construction requirements, including provision of universal access to PCS services. By including alternative population coverage requirements we can better ensure that narrowband PCS licensees provide new and better service to the public, that such service is implemented promptly, and that the spectrum is efficiently utilized. Accordingly, we are amending our rules as proposed by Mtel to require that the required base stations serve either a minimum geographic area or a minimum percentage of population at the five- and ten-year benchmarks.[16] In addition, we are amending the construction requirements to reflect the changes made in narrowband PCS service areas.

32. Nationwide narrowband PCS licensees will be required to construct base stations that provide coverage to a composite area of 750,000 square kilometers or serve 37.5 percent of the U.S. population within five years of initial license grant date; and, to construct base stations that provide coverage to a composite area of 1,500,000 square kilometers or serve 75 percent of the U.S. population within ten years of initial license grant date. Regional narrowband PCS licensees will be required to construct base stations that provide coverage to a composite area of 150,000 square kilometers or serve 37.5 percent of the population of the service area within five years of initial license grant date; and, to construct base stations that provide coverage to a composite area of 300,000 square kilometers or serve 75 percent of the service area population within ten years of initial license grant date. MTA narrowband PCS licensees will be required to construct base stations that provide coverage to a composite area of 75,000 square kilometers or 25 percent of the geographic area, or serve 37.5 percent of the population of the service area within five years of initial license grant date; and, to construct base stations that provide coverage to a composite area of 150,000 square kilometers or 50 percent of the geographic area, or serve 75 percent of the population of the service area within ten years of initial license grant date. BTA narrowband PCS licensees must construct at least one base station and begin providing service in its BTA within one year of initial license grant date.

33. In demonstrating compliance with the construction and coverage requirements, we will allow licensees to individually determine an appropriate field strength for reliable service,

---

[16] If the sale of a license is approved, the new licensee is held to the original build-out schedule.

taking into account the technologies employed in their system design and other relevant technical factors. Coverage of narrowband PCS base stations may be calculated by methods prescribed for 931 MHz common carrier paging,[17] or by using industry-developed propagation models. The formula selected by the licensee should be based on the technical characteristics of its system. At the five and ten year benchmarks, nationwide, regional and MTA licensees will be required to file a map and other supporting documentation showing compliance with either the population or geographic area requirements. BTA licensees shall file a statement indicating commencement of service.

34. As indicated above, we believe that these requirements will foster our goal of providing the public with universal access to PCS services. We believe that the choice of geographic or population coverage strikes an appropriate balance between our goal of ensuring that PCS service is available in rural and remote areas and mere geographic coverage requirements that may lead to coverage where service is not needed and economically unjustified.[18] We intend to monitor closely the development of narrowband PCS services in this area; and, we will readdress, if necessary, our construction requirements at a later date to ensure that our goals for this service are met.

35. Service Definition. In the Report and Order, we considered and rejected restricting narrowband PCS service beyond two conditions: 1) fixed services are permitted only on an ancillary basis, and 2) broadcasting is not permitted. We defined PCS as a family of mobile and portable radio communications services which could provide services to individuals and business, and be integrated with a variety of competing networks. We found that narrowband PCS would be an important member of the PCS service family, and anticipated that advanced paging and messaging services would be one of the predominant narrowband services to be provided. We also stated that we did not wish to foreclose the development of other narrowband services.

---

[17] See 47 C.F.R. § 22.504(b) (1992).

[18] We have eliminated the requirement that licensees build a specific minimum number of base stations. We believe that these new geographic and population based coverage requirements eliminate the need to specify a specific number of stations. Further, this approach should also eliminate any previous ambiguity that may have occurred with our discussion of low power stations. All base stations, both high and low power, shall be counted based on their calculated service area in complying with the new cumulative geographic and population coverage requirements.

36. In its petition, PageMart argues that while the Commission expects that advanced messaging and paging services will be one of the predominant narrowband PCS services to be provided, there are no safeguards to ensure that this expectation will be realized. Further, PageMart states that the scarcity of existing spectrum for traditional paging services, especially in major metropolitan areas, makes it likely that existing paging operators will seek to use this new spectrum for existing services, with the result that spectrum will not be available for innovative PCS uses. PageMart urges us to restrict narrowband PCS services to services that represent "a substantial advancement or improvement over paging services, and not merely a refinement or enhancement of existing services." No party addressed this aspect of PageMart's petition.

37. We continue to believe that a broad definition of PCS is warranted. We do not believe it would be desirable to limit the range of services and technologies that are allowed to use these frequencies. Rather, the broad definition we have adopted will allow the market to determine the mix of services and technologies that best meets the needs of the public for narrowband PCS services. We note that significant interest has been expressed in the record of this proceeding concerning the provision of a wide range of PCS services employing new technologies. We therefore do not expect that the narrowband PCS channels will be used to a significant extent for existing paging services. Accordingly, we are denying PageMart's the request that eligible narrowband PCS services be limited to "advanced" or "improved" services.

Mtel's Pioneer's Preference

38. Mtel (PP-37) was awarded a pioneer's preference for having developed and demonstrated the feasibility of significant innovations that will permit delivery of existing and new advanced paging and messaging services in a spectrum-efficient manner. As originally requested by Mtel, the award is for a nationwide license for a 50 kHz unpaired block.

39. Although none of the petitioners challenge the technical merit of the award,[19] PageMart, PageNet, and Pacific Bell request that Mtel be required to pay for its license; and PageMart and PageNet request that Mtel be required to build the system it proposed and not be granted a license before other

[19] BellSouth Corporation and Freeman have appeals pending before the U.S. Court of Appeals for the D.C. Circuit that challenge the award to Mtel. See BellSouth Corp. v. FCC, No. 93-1518 (D.C. Cir. filed August 20, 1993) and Freeman Engineering Associates, Inc. v. FCC, No. 93-1519 (D.C. Cir. filed August 23, 1993).

applicants. Finally, PageMart requests that Mtel be granted a license for a service area smaller than nationwide.

40. Payment for License. Pacific Bell, PageMart, and PageNet agree that Mtel should be required to pay for the license it is expected to receive under its pioneer's preference grant.[20] The Report and Order granting the preference predated enactment of the statute authorizing competitive bidding authority that gives rise to this issue.[21] In view of these changed circumstances, Pacific Bell proposes that pioneer's preference licensees, and Mtel in particular, be required to pay a fee equal to the lowest winning bid paid in the competitive bidding process for a comparable spectrum block. Pacific Bell argues that not charging awardees will disadvantage competing providers. PageNet agrees, and argues that the pioneer's preference process was not designed to have an anti-competitive impact but that if Mtel does not have to pay a charge comparable to that of other licensees Mtel will be able to provide service at a cost lower than its competitors and thereby gain an unfair advantage over its competitors.

41. In its comments, American Paging also argues that Mtel should pay a just and reasonable amount for its license, arguing that at the time of Mtel's grant, the Commission could not have known how the Budget Reconciliation Act would define the circumstances in which competitive bidding would be mandated and that a "cost-free" license will have significant unforeseen anti-competitive consequences. PageMart states that Mtel should pay full market value for its license and suggests that Mtel pay "at a minimum the average of the winning bids for comparable markets, perhaps with a demographic weighting formula or calculated on a per-pop basis."

42. In its reply, PageMart states that Mtel should pay full market value for its license, arguing that the 1993 Budget Reconciliation Act is neutral on the entire pioneer's preference procedure and that the Conference Report makes clear that the

---

[20] Pacific Bell and PageNet also request that the Commission consider the relationship between competitive bidding authority and the pioneer's preference rules. After Pacific Bell and PageNet filed their pleadings in this Docket we undertook such a review, see Review of the Pioneer's Preference Rules, Notice of Proposed Rule Making, ET Docket No. 93-266, 8 FCC Rcd 7692 (1993).

[21] On August 10, 1993, Section 6002 of the Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, 107 Stat. 312, (1993 Budget Reconciliation Act) was enacted authorizing the Commission to employ competitive bidding to choose from among mutually exclusive applicants for licenses.

issue of charging a preference awardee for its license has been left for the Commission to resolve. PageMart states that the Commission's regulations regarding the payment of licensing fees reflects an intent to limit charges for the processing of applications and other services, and cannot be interpreted as limiting the Commission's authority to collect a fee equivalent to a bid.

43. Mtel opposes the proposals, arguing that Congress previously mandated that license fees may not exceed the cost of regulation, and that in enacting the 1993 Budget Reconciliation Act Congress did not alter the fee requirements for licenses awarded to pioneer's preference holders. Therefore, Mtel concludes that charging a pioneer's preference grantee a fee for its license related to amounts bid at auction would be inconsistent with the rules under which the preference was awarded. Mtel also argues that it would be unlawful for the FCC to substantially modify the terms of its pioneer's preference grant in what it characterizes as a retroactive manner.

44. In the Pioneer's Preference Review proceeding we noted that Congress authorized use of competitive bidding methods only when multiple applications are filed that are mutually exclusive and that the pioneer's preference rules provide that a pioneer will be granted a license without being subject to competing applications.[22] The Commission stated that the statutory language may exempt a pioneer's preference grantee from paying for a license so issued, and solicited comment on this interpretation. The Commission further stated that disposition of the preference request by Mtel was made before enactment of auction authority and, as a matter of equity, nothing in this review will affect this proceeding. After release of the Pioneer's Preference Review Notice of Proposed Rule Making, Pacific Bell stated that it agrees that any change in the pioneer's preference rules should not be applied to Mtel. However, Pacific Bell states that it continues to believe that in the future pioneer preference licensees should be required to pay a fee equal to the lowest winning bid for the appropriate licensing area.[23]

---

[22] See Pioneer's Preference Review Notice of Proposed Rule Making, citing Pub. L. No. 103-66, Section 6002(a), 8 FCC Rcd 7692 at 7693 (1993) (statute appears to preclude charging a fee where no mutually exclusive applications are submitted).

[23] See Pacific Bell's Reply to Oppositions to Petition for Clarification at 3.

45. In the First Report and Order in ET Docket No. 93-266, we again declined to apply possible changes in our pioneer's preference rules to this proceeding.[24] We continue to believe that as a matter of equity we should not apply any new pioneer's preference rules in this proceeding, because a final order addressed the preference prior to enactment of the 1993 Budget Reconciliation Act. Accordingly, except for our normal established fees, we will not charge Mtel for the license that it may receive pursuant to its preference grant.[25]

46. Requirement to Build Proposed System. PageMart and PageNet request that Mtel be required to build the system it proposed and for which it received the award. Specifically, PageMart urges the Commission to require that Mtel use any license resulting from the pioneer's preference grant solely to develop the system it proposed, arguing that otherwise Mtel could use its preference to provide existing paging services or for an entirely different service that would not have qualified it for a preference. Similarly, PageNet requests that the Commission require Mtel -- or any preference licensee -- to provide the service for which it received the pioneer's preference. Mtel responds that it is unnecessary to condition its license with a requirement to build the system it proposed because it will file a license application to implement its NWN proposal upon which its preference is based.[26] PageMart responds that if Mtel is filing an application that is based on the technology for which it received a pioneer's preference, then Mtel should have no objection to such a requirement.[27]

---

[24] See Review of the Pioneer's Preference Rules, First Report and Order, 9 FCC Rcd 605 at n. 23 (1994).

[25] We do not address here the issue concerning our authority to charge pioneer's preference awardees in the future based upon comparable competitive bids or other methods.

[26] We have directed the Common Carrier Bureau to issue a public notice inviting Mtel to submit an application, see Public Notice, Mimeo No. 41645 (February 3, 1994). Because of concern over availability of these services in the greatest possible number of localities and communities, we directed the Bureau to consider conditioning any license granted Mtel as a result of its preference with a stricter build-out requirement, such as 90 percent at the 10-year mark. Mtel and other parties to the licensing proceeding will be provided an opportunity to comment on this possible condition in the context of the licensing process.

[27] BellSouth, in its judicial appeal, similarly stated that Mtel should be required to build the system it proposes.

47. In awarding three pioneer's preferences to 2 GHz broadband PCS applicants, we instructed the relevant licensing bureau to condition each license upon the licensee building a system that substantially uses the design and technologies upon which its preference award was based and further that the licensee hold the license for three years or until the five-year build-out requirement is met, whichever occurs first.[28] The Commission found that this requirement ensures the integrity of its pioneer's preference policies and is consistent with award of a dispositive pioneer's preference. We believe it inherent in our pioneer's preference policy that the innovator use the technology upon which its preference is based, and therefore will impose an identical requirement on Mtel. Accordingly, we will direct the licensing bureau to condition any license granted Mtel based on its preference upon Mtel building a system that substantially uses the design and technologies upon which its preference award is based. This condition will apply only for the nationwide channel for which the preference is being granted and only until it has met the initial five year build-out requirement in the rules.

48. Additionally, we instruct the licensing bureau to condition the license that Mtel may receive as a result of its pioneer's preference grant on holding the license for a minimum of three years or until the construction requirement applicable to the five-year build-out period has been satisfied, whichever occurs first. This condition is consistent with the Commission's policies established in the initial pioneer's preference rulemaking. There, the Commission prohibited transfer of a preference on the grounds that the Commission did not intend to create a "futures market" in preferences before substantial build-out has occurred; allowing licensees to transfer pioneer's preference license would be tantamount to allowing the transfer of the preference, and would subvert the purpose of the pioneer' preference policy to "help ensure that innovators have an opportunity to participate in new services that they take a lead in developing..."[29] As the Commission recognized in the initial rulemaking, however, there may be circumstances, such as the sale of the company itself, that would result in the transfer of the preference but would not thwart the Commission's policies.[30] We

---

[28] See Broadband Personal Communications Services, Third Report and Order, GEN Docket No. 90-314, FCC 93-550 at paras. 8-9 (released February 3, 1994).

[29] See Establishment of Procedures to Provide a Preference, Report and Order, 6 FCC Rcd 3488 (1991).

[30] Id. at 3496.

do not preclude requests for waiver on transfer of license under such circumstances.[31]

49. Timing of Mtel's License. PageNet requests that Mtel's license not be awarded before those of its competitors, arguing that consumers would have no alternative to Mtel's service offerings and that its competitors would not have a "level competitive playing field."[32] American Paging and PageMart support the request.[33] American Paging argues that all competitors should have the same opportunities in terms of market entry based upon simultaneous grant dates for initial licensing. PageMart argues that the pioneer's preference process was not intended to provide grantees with the advantage of receiving their licenses before those of their competitors, that licensing will be delayed until final competitive bidding rules are adopted, and that the Commission explicitly has rejected creating more than a de facto headstart for pioneer's preference grantees. PageMart states that Mtel already has received a de facto headstart because of the licensing certainty created by the preference grant. Therefore, PageMart urges that we issue all narrowband PCS licenses simultaneously and allow the market to determine the most attractive and efficient service.

50. Mtel responds that its license application should be processed expeditiously because the public interest would be disserved by denying consumers access to an innovative service.[34] Mtel argues that the purpose of the Commission's pioneer's preference policy is to encourage the development of technical innovations to provide new consumer services and that delaying Mtel's license is inconsistent with encouraging the rapid introduction and use of such new technologies. Further, Mtel argues that the Commission understood that winners of pioneer's preferences may receive a de facto headstart due to the time it may take other entities to apply for and be licensed. Finally, Mtel notes that the Commission is required by the 1993 Budget Reconciliation Act to begin licensing PCS on or before May, 1994,

---

[31] In addition, to the extent Mtel objects to the these conditions, it may, once it receives a conditional grant, reject the grant, in which case its application will be designated for administrative hearing. See 47 C.F.R. § 1.110.

[32] See PageNet, Petition for Reconsideration and Clarification (September 10, 1993).

[33] See PageMart, Opposition and Comments on Petitions for Reconsideration and/or Clarification (October 25, 1993); American Paging, Comments (October 25, 1993).

[34] See Mtel, Opposition to Petitions for Reconsideration of PageNet and Pacific Bell (October 25, 1993).

and therefore argues that granting Mtel a license as soon as it has satisfied all relevant requirements would not significantly disadvantage potential competitors.

51. We disagree that Mtel is receiving more than a de facto headstart. As soon as the competitive bidding procedures are in place, we expect to begin licensing the remaining channels in this service. In the Pioneer's Preference Report and Order, we stated that pioneer's preference grantees may receive a de facto headstart because of the nature of our licensing process, but we declined to establish of a defined period during which the pioneer would be guaranteed a monopoly.[35] The parties have advanced no argument that convinces us to treat Mtel differently than other pioneer's preference awardees. Therefore, Mtel's license application will be processed without delay as soon as administratively feasible.

52. Service Area. In the Report and Order, we provided eleven channels (five 50/50 kHz, three 50/12.5 kHz, and three 50 kHz unpaired channels) for nationwide competitive narrowband services and granted Mtel a pioneer's preference for one of the 50 kHz unpaired channels. PageMart suggests that Mtel's pioneer's preference be limited to the principal market in which it tested its system. PageMart argues that a nationwide license is inconsistent with the level of investment Mtel made in developing the systems for which its preference was granted. PageMart also argues that the advent of competitive bidding undermines much of the need to provide innovators with special preferences and that a license limited to the geographic area in which Mtel conducted its testing would accomplish the aims of the preference system without providing unnecessary, anti-competitive advantages. No other party commented on this issue.

53. Mtel opposes PageMart's request, arguing that its proposed service, like the one for which PageMart requested a pioneer's preference, is inherently nationwide. Mtel also states that nationwide coverage is a fundamental benefit offered by its Nationwide Wireless Network (NWN) to consumers and that NWN responds to documented consumer demand for such a nationwide service.

54. In the Report and Order we granted Mtel a license for the service area it requested. There are ten other nationwide licenses available, including two additional 50 kHz unpaired channels. In the Report and Order[36] we concluded that, given the provision for 11 channels on a nationwide basis, a nationwide

---

[35] See Report and Order, GEN Docket No. 90-217, 6 FCC Rcd 3488 at 3492 (1991).

[36] Report and Order at note 63.

preference is consistent with promoting a competitive market for narrowband services. We noted that Mtel has experience in providing nationwide paging services, has designed its proposed system to be deployed nationwide, and provided evidence that there is a market for its services. We continue to believe that grant of a nationwide preference to Mtel is fully justified by the record of its accomplishments and consistent with our rules and underlying goal of promoting competition. Accordingly, we affirm Mtel's pioneer's preference grant for a nationwide 50 kHz unpaired channel.

Pioneer's Preference Denials

55. ACT (PP-4). ACT proposes a second generation cordless telephone (CT-2) type service in the 940-948 MHz band. In the Tentative Decision in GEN Docket No. 90-314, we tentatively denied ACT's preference request because CT-2 type systems are not innovative.[37] ACT did not file comments on the Tentative Decision. In the Report and Order, we noted that CT-2 type service already had been developed and implemented by others in various parts of the world, and stated that the introduction of an existing service does not meet the criteria of our pioneer's preference rules. ACT's preference request therefore was denied.

56. ACT petitioned for reconsideration of the denial of its preference request 73 days after the deadline for filing such a petition. Because the 30-day deadline for filing petitions for reconsideration is statutory, see 47 U.S.C. § 405, we dismiss ACT's petition as untimely filed.

57. Echo (PP-36). Echo proposes a two-way Mobile Data Radio Service ("MDRS") and requests a 25 kHz pair in the 930-931 MHz band.[38] In the Report and Order, we denied Echo's preference request, stating that Echo developed MDRS on land mobile and cellular frequencies, and that the services Echo proposed already are permitted in these bands; that Echo did not demonstrate its responsibility for developing a specific innovation that permits provision of MDRS on narrowband PCS frequencies; and that Echo did not demonstrate the innovativeness of its technology.

58. Echo argues that the denial is inconsistent with the rules and the facts presented. Echo claims that in comparison to Mtel, its system is more cost-effective, uses less spectrum than required by Mtel's system, and provides significantly greater

---

[37] See Tentative Decision and Memorandum Opinion and Order, 7 FCC Rcd 7794 (1992).

[38] Echo proposes that the 25 kHz pair be divided into five 5 kHz packet data channels for base station transmissions and five 5 kHz packet data channels for mobile transmissions.

capacity than Mtel. Echo adds that its system is a two-way, real-time system while Mtel uses a store-and-forward technology. No party commented on Echo's petition.

59. The record demonstrates that MDRS was developed and initially designed for implementation in services in which its use already is authorized. Echo has not demonstrated how MDRS differs from existing or proposed two-way data services on cellular frequencies or the two-way mobile data services that exist on other 800 and 900 MHz frequencies. Nor has Echo has demonstrated with specificity the developments for which it is responsible that permits MDRS to be used on narrowband PCS frequencies. Additionally, while Echo contends that its system is economical, how it derives its cost figures is unexplained in the record. Accordingly, we deny Echo's petition for reconsideration.[39]

60. Freeman (PP-79). Freeman proposes an Enhanced Paging Service ("EPS"), which is a wide band paging service that Freeman states would allow the integration of tone plus voice, tone only, digital readout, and alpha-numeric paging and "E-Mail" paging services on a single paging channel. Freeman originally requested 262 kHz per licensee: 150 kHz for base stations to simulcast over a large geographic area, 56 kHz for mobiles and fixed units to respond to an incoming call, and 56 kHz for base stations and mobiles for packet messaging to be used in conjunction with the paging system for wireless input of paging calls.

61. In the Report and Order, the Commission denied the preference request because Freeman's proposal requires an amount of spectrum inconsistent with the rules adopted and because Freeman appeared to propose to use 150 baud simulcast equipment, which is slow and not spectrum efficient or innovative.

---

[39] In the 2 GHz PCS proceeding we denied the pioneer's preference request of Qualcomm, Incorporated for similar reasons, stating that most of the technical developments and patents associated with Qualcomm's proposal appear to have been developed for implementation of its 800 MHz digital cellular system and that Qualcomm had not demonstrated with specificity its responsibility for any innovative developments in adapting these developments to the 2 GHz PCS band. While Qualcomm had done work at 2 GHz on exclusion zones around microwave towers, the use of smaller cells, and remote antennas, after extensive review we were unable to identify a specific significant aspect of this work that is innovative and for which Qualcomm was responsible. Therefore, while Qualcomm's equipment appeared to be viable for the provision of PCS services, we concluded that Qualcomm did not merit a preference. See Third Report and Order, supra note 28, at para. 266.

62. Freeman argues that the reasons for denying its request are misplaced. Specifically, Freeman argues that it has revised its system to require a high-power bandwidth of 150 kHz paired with a low-power bandwidth of 50 kHz, and therefore that its request for spectrum now is consistent with the rules adopted because the rules permit aggregation of licenses up to 150 kHz in the high-powered bands paired with 150 kHz in the low-powered bands. Additionally, Freeman states that its proposed system would not employ 150 baud simulcast equipment, and that the maximum speed of its system would be 288 kilobits per second (kbps) in the 150 kHz forward channel, which Freeman states is equivalent to 96 kbps in a 50 kHz channel. Freeman uses this equivalent speed to compare its system to Mtel's system that uses 24 kbps in a 50 kHz channel. No party commented on Freeman's petition.

63. We find that Freeman's revised system remains incompatible with our 900 MHz PCS licensing rules. Freeman's request for 150 kHz paired with 50 kHz exceeds the largest channel -- 50 kHz paired with 50 kHz -- that is available for assignment as a single license. To license a 150/50 kHz system, we necessarily would have to license non-contiguous channels, i.e., one 50/50 channel and two 50 kHz unpaired channels; however, Freeman has not shown that its system can work with non-contiguous channels. Furthermore, our pioneer's preference rules provide for grant of one license, which under our adopted channel plan would be for 50 kHz paired with 50 kHz. This would not provide Freeman with the spectrum it appears required. Accordingly, we deny Freeman's petition for reconsideration.

64. Global (PP-80). Global proposes an enhanced narrowband data and paging service called Global Enhanced Messaging ("GEM") that it describes as transmitting messages at 6.25 kbps rates in a 25 kHz channel. Global requests one 25 kHz unpaired channel. Global states that the GEM service would utilize a unique radio paging transmission format that would support a data transmission speed in excess of 6.25 kbps and that this speed improvement would be enhanced further through techniques that reduce the amount of information transmitted to send certain types of paging data. Specifically, Global states that these techniques would increase the number of alphanumeric subscribers accommodated on a 25 kHz channel by 30 percent over the number achievable by merely increasing the speed. Finally, Global states that the GEM system would use a device that integrates a pager with a portable data terminal, which can be connected to the telephone network to permit two-way communications.

65. In the Report and Order, the Commission denied Global's preference request, stating that a device made to connect with the telephone network to receive large messages and acknowledge pages does not qualify as innovative; that GEM's increase in transmission speed lacks innovativeness; that the Commission was